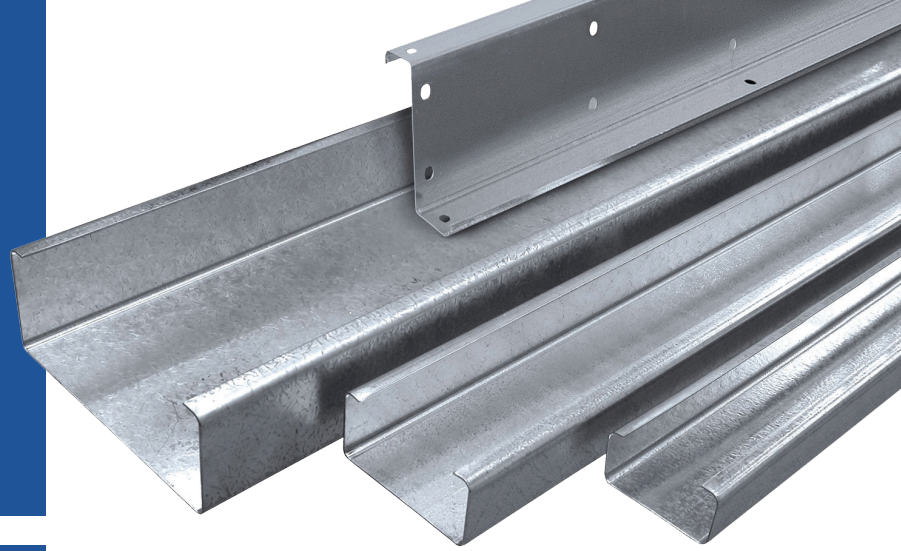


STANDARD PURLINS & GIRTS

Lightweight, High Strength
C & Z Sections



What is SAFBUILD®?

SAFBUILD® is SBS's Cold-Formed, coated-steel pre-engineered buildings (PEBs) that is designed, fabricated and installed at a customer's site to yield:



Speed (our systems double the speed based on conventional market standard)



Accuracy (fully-factory-fabricated)



Durability (fully-galvanized system)



Maintenance-freeness (no painting)



Re-locatability (only bolted joints)



One-stop shop (all under 1 roof)



World-Class Standards

Standard Purlins & Girts

SAFAL BUILDING SYSTEMS Ltd. (SBS) offers a range of Purlins and Girts in C and Z profiles manufactured from hi-tensile G450 Galvanized steel, with a minimum Z275 coating.

Advantages

Hi-tense galvanized steel spans further and carries heavier loads compared to thicker MS sections.

Superior protective coating guarantees long life performance even in the most challenging environments. No need for painting or periodic maintenance.

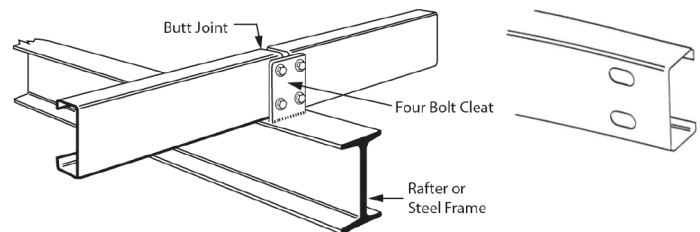
Purlin and Girts are available in **100mm, 150mm, 200mm, 250mm & 300mm** deep sections. This range is suitable for use across **commercial, industrial** and **domestic** applications.

SAFBUILD® C Section Purlins

C section Purlins are generally manufactured from min. G450, Z275 Pre-Galvanized Steel and are roll formed into a C section.

SAFBUILD® C section Purlins are recommended for use in simple, non-continuous span construction.

Suitable applications include portal frames, roofing, single bay buildings, wall cladding and flooring systems. The C section Purlins can also be used on multi-bay buildings in lines of simple spanning Purlins and Girts.



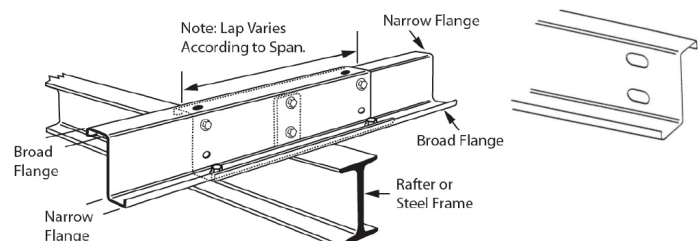
SAFBUILD® Z Section Purlins

SAFBUILD® Z section Purlins are generally manufactured from min G450, Z275 Pre-Galvanized Steel and are roll formed into a Z section. Suitable structural application includes grain handling, coal handling and manufacturing facilities.

SAFBUILD® Z Section Purlins have one broad and one narrow flange. These are designed to sit neatly and are used for lapping at internal supports. This produces structurally continuous lines of Purlins for the length of the building.

Structural continuity results in improved rigidity, additionally lapping doubles the thickness of the Purlin over the supports where bending movement is the greatest. This may save up to 30 - 50% of steel in Purlins relative to C section Purlins.

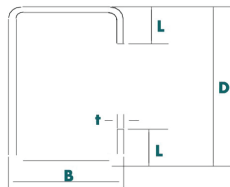
When additional purlin strength is required, Z section Purlins of the same depth but greater thickness can be lapped as needed.



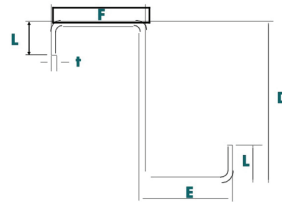
Purlin Dimensions & Properties

PURLIN DIMENSIONS & PROPERTIES

C PURLIN



Z PURLIN



C & Z Purlin Size & Mass Table

Section	Thickness mm (T)	Height mm (D)	Z Purlins			C Purlins		Mass Kg/m
			E	F	L	B	L	
100 12*	1.2	102	53	49	13	51	12.5	2.07
100 15	1.5	102	53	49	13.5	51	13.5	2.57
100 16	1.6	102	53	49	13.5	51	13.5	2.74
100 19	1.9	102	53	48	14.5	51	14.5	3.25
150 12	1.2	152	65	61	15.5	64	14.5	2.82
150 15	1.5	152	65	61	16.5	64	15.5	3.53
150 16	1.6	152	65	61	16.5	64	15.5	3.77
150 19	1.9	152	65	61	17.5	64	16.5	4.46
150 24	2.4	152	66	60	19.5	64	18.5	5.62
200 15	1.5	203	79	74	18	76	15.5	4.44
200 19	1.9	203	79	74	18.5	76	19	5.68
200 24	2.4	203	79	73	21.5	76	21	7.15
250 19	1.9	254	79	74	18	76	18.5	6.43
250 24	2.4	254	79	73	21	76	20.5	8.1
300 24	2.4	300	100	93	27	96	27.5	10.01

*Minimum order quantities and lead time apply

Purlin Installation

For SAFBUILD Cold Formed, the bolting is done on the purlins directly to either rafters or columns by a qualified steel fabricator. This is the primary standard of installation. Alternatively, the bolting can be done on the heightened portion of HR/BU structures.

Bolts are usually M12 Grade 4.6 and require snug tightening for an effective connection.

To allow for minor variations in frame alignment, Purlins made from G450, Z275 Galvanized steel have slotted clearance holes 18 x 22mm to allow for greater adjustment.

The generous clearance holes facilitate assembly without affecting structural performance. Where Z Purlins are lapped, additional holes are provided to ensure structural continuity. Purlins engineered for M12 bolts must not use M16 bolts.

To minimise section rotation between supports or bridging, Purlins must be installed with the top flange facing up the slope from the cleat:

- **C Sections** should be fitted on the high side of the cleat, open face directed up the slope.
- **Z Sections** should be fitted with the web on the low side of the cleat, with the top flange above it.

Fixing cladding to Purlins is straight forward, the sections are very flexible until they become part of the total sheeted system. Maintain a stable framework by installing the bridging as the Purlins are attached.

Bundles of roof sheeting should not be placed on un-sheeted Purlins, as this can cause overloading and permanent deformation of the sections.

Bridging Systems

Safal Building Systems Ltd. can also supply a complete range of bridging components and accessories suitable for:

- Intermediate Bridging
- Fascia Bridging
- Expansion Joint Bridging
- Tie Rod Bridging
- Girt Bridging
- Ridge Bridging

Welding

The welding of Purlins, girts and bridging is not recommended. Welding affects the material properties and removes the galvanised coating which may lead to premature corrosion.

Corrosion Protection

KEBS Standard - 2971: 2023 requires that cold form sections must be adequately protected from corrosion attack. The protection options range from painting through to heavy galvanised systems.

Before specifying a Purlin type, the structure type, climatic conditions, proximity to salt sprays and maintenance provisions must be considered.

The zinc coating and quality controlled galvanising process used by SAFAL BUILDING SYSTEMS Ltd. ensures a high level of corrosion protection.

The typical standard of corrosion protection used in SAFBUILD® Purlins is Z275 (275g/m²) zinc coating weight.